Translation

PCT/RU2002/000515

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference msco 906	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/RU2002/000515	International filing date (*day/month/year*) 02 December 2002 (02.12.2002)	Priority date (*day/month/year*) 06 June 2002 (06.06.2002)
International Patent Classification (IPC) or national classification and IPC B63B 35/08		
Applicant KULIKOV, Nikolai Vladimirovich		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 4 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of _____ sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand	Date of completion of this report
04 June 2003 (04.06.2003)	09 September 2004 (09.09.2004)
Name and mailing address of the IPEA/RU Facsimile No.	Authorized officer Telephone No.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/RU2002/000515

I. Basis of the report

1. With regard to the **elements** of the international application:*

☒ the international application as originally filed

☐ the description:
pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____

☐ the claims:
pages _____, as originally filed
pages _____, as amended (together with any statement under Article 19
pages _____, filed with the demand
pages _____, filed with the letter of _____

☐ the drawings:
pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____

☐ the sequence listing part of the description:
pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.
These elements were available or furnished to this Authority in the following language _____ which is:

☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).

☐ the language of publication of the international application (under Rule 48.3(b)).

☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages _____

☐ the claims, Nos. _____

☐ the drawings, sheets/fig _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* *Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).*

** *Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.*

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/RU 02/00515

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-14	YES
	Claims		NO
Inventive step (IS)	Claims	1-14	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-14	YES
	Claims		NO

2. Citations and explanations

Reference is made to the following documents cited in the search report:

D1: SU 1106730 A,

D2: US 3973509 A

D3: RU 2133687 C1

D4: US 3455270 A

The application claims variants of icebreakers in accordance with independent claims 1 and 5, a method for single-point mooring and servicing ships in accordance with claim 9, and a system for single-point mooring and servicing ships in accordance with claim 12.

The prior art closest to the invention according to claims 1 and 5 is the icebreaker disclosed in D1, principally for offshore transfer of a fluid medium, preferably oil, comprising a hull with guiding vertical through-shafts made therein and a deck.

The icebreaker according to claim 1 differs from the icebreaker disclosed in D1 in that it is equipped with "the following installed on the deck: a diving station communicating with one of the vertical through-shafts for lowering and raising a diver; a device for protecting the flexible hose of an underwater pipeline from the action of the ice, said device being in the form of a cylinder with guides for displacement in another vertical shaft made in

the stern end of the ship and mounted in the sea-going position in the stern end of the deck".

The icebreaker according to claim 5 differs from the icebreaker disclosed in D1 in that it is equipped "with a diving station installed on the deck that communicates with a guiding vertical through-shaft for lowering and raising a diver, a device for protecting the flexible hose of an underwater pipeline from the action of the ice, said device being in the form of a platform having a shaft for servicing the flexible hose and mounted in the sea-going position on the deck.

Said distinguishing features of claims 1 and 5 intended for offshore transfer of a fluid medium from a battery of tanks on the coast to sea tankers during the winter period in ice conditions are not found in D2-D4 and are not obvious.

The prior art closest to the method according to claim 9 is the method disclosed in D3 for single-point mooring and servicing ships, mainly tankers, in ice conditions, whereby a fixed structure secured to the seabed is used, having a device connected rotatably around a vertical axis to said structure and a valve for the fluid medium, mainly oil, a mooring, and a flexible pipeline for transporting the fluid medium to the moored tanker through the cargo-receiving device thereof.

The method according to claim 9 differs from the method disclosed in D3 in that "to moor a ship and transport a fluid medium a mooring and a hose are used in the form of a single hose-and-mooring whose inboard end is secured to the device of a fixed structure; in addition, an icebreaker is additionally used to transfer oil offshore, having on deck a diving station communicating with a shaft for lowering and raising a diver with whose assistance the fluid medium valve is opened, and the hose-and-mooring is found and lifted on

to the tanker after emergency disconnection thereof from the cargo-receiving device and when there is packed floating ice."

The prior art closest to the system according to claim 12 is also the system disclosed in D3 for single-point mooring and servicing ships, mainly tankers, in ice conditions, said system comprising a fixed structure secured on the seabed having a device connected rotatably around a vertical axis to said structure, and a valve for the fluid medium, mainly oil, a mooring and a flexible pipeline for transporting a fluid medium to the tanker through a cargo-receiving device thereof.

The system according to claim 12 differs from the system disclosed in D3 in that "the hose for transporting the fluid medium and the mooring are made in the form of a single hose-and-mooring, the inboard end of which is secured on a device of a fixed structure, the system being equipped with an icebreaker for transferring oil offshore having a diving station on deck communicating with a shaft on deck for lowering and raising a diver who ensures opening of the liquid medium valve, finding and raising the hose-and-mooring on to the tanker after emergency disconnection thereof from the cargo-receiving device and in conditions of packed floating ice".

The distinguishing features in claims 9 and 12 that ensure the result mentioned above in the analysis of claims 1 and 5 are not found in D1, D2 and D4 and are not obvious.

Therefore claims 1, 5, 9 and 12 and also dependent claims 1-4, 6-8, 10, 11, 13 and 14 meet the requirements of novelty and inventive step.

All the claims are industrially applicable.